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BULLETIN INFORMATION

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The principal function of *Catesbeiana* is to publish observations and original research about Virginia herpetology. Rarely will articles be reprinted in *Catesbeiana* after they have been published elsewhere. All correspondence relative to the suitability of manuscripts or other editorial matters should be directed to Dr. Paul Sattler, Editor, *Catesbeiana*, Department of Biology, Liberty University, 1971 University Blvd., Lynchburg, VA 24502 (email: pwsattle@liberty.edu).

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Manuscripts for consideration of publication in *Catesbeiana* should be doublespaced and submitted to the Editor electronically or typewritten on good quality 8½ by 11 inch paper, with adequate margins. Consult the style of articles in this issue for additional information, including the appropriate format for literature citations. The metric system should be used for reporting all types of measurement data. Computer diskettes or email attachments in Word or WordPerfect format are desired for all papers. Submissions concerning the herpetofauna of selected areas, such as a park, city or county, should be prepared in article rather than field note format. Articles will be refereed by the editor and one or more qualified reviewers. All changes must be approved by the author before publication; therefore, manuscripts must be received by the editor before **March 1** and **September 1** to be considered for publication in the spring and fall issue, respectively, of *Catesbeiana*. Reprints of articles are not available, but authors may reprint their own articles to meet professional needs.

(Editorial policy continued on inside back cover)

CATESBEIANA
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Volume 28	Spring 2008	No. 1
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Contents

The Cove Survey
Mike Hayslett, Jerry Craig and Jason Gibson.....3

VHS 2008 Annual Spring Meeting & Survey
Colonial National Historic Park20

The Weak El Niño of 2007: Disturbances in Life History
Patterns and Weather Related Fatalities due to a Warm January.....21

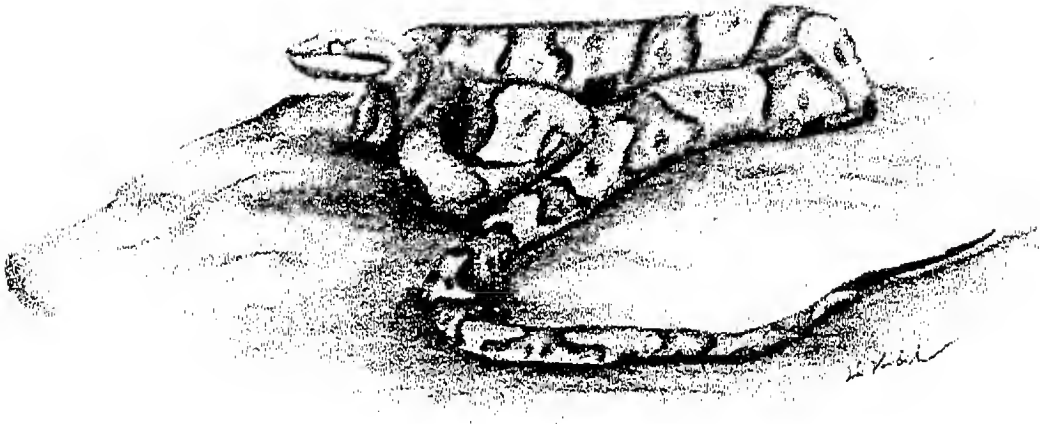
Field Notes26

The President’s Corner29

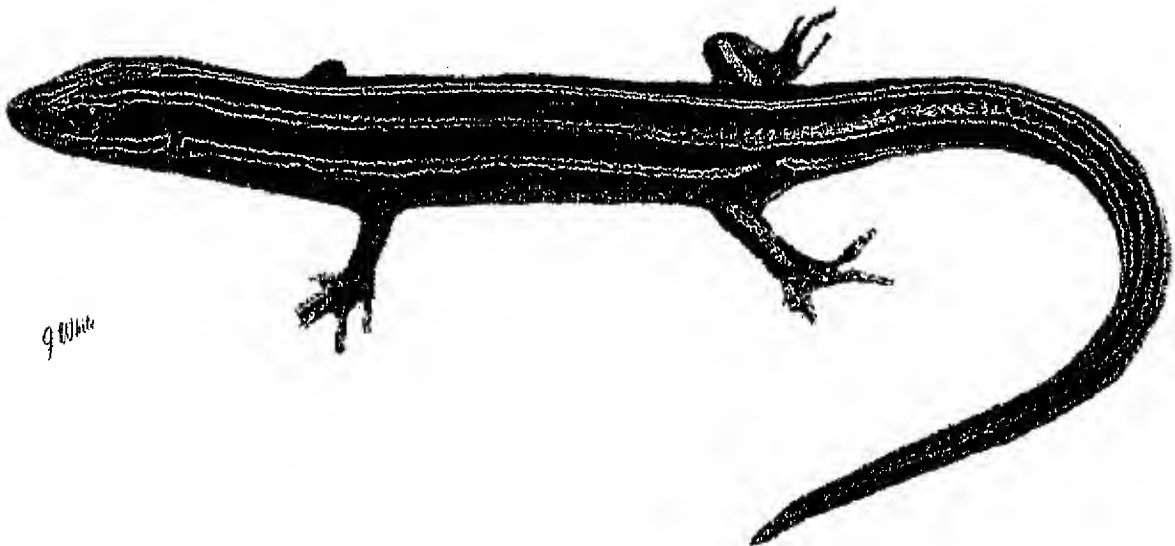
Minutes of the Fall 2007 VHS Meeting32

Treasurer’s Report.....35

For information on future meetings and field trips
visit the VHS website at vaherpsociety.com



Copperhead (*Agkistrodon contortrix*);
original drawing by Wes Van Gelder.



Southeastern Five-lined Skink (*Eumeces inexpectatus*);
original drawing by John White.

Survey of Reptiles and Amphibians found at *The Cove* in Halifax County, Virginia

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Introduction

The Cove is the 859 ha wildlife preserve of the Ward Burton Wildlife Foundation, located approximately 31 river km downstream from Brookneal, on a distinctive horseshoe bend of the Staunton (Roanoke) River in northeastern Halifax County (See Fig. 1). This wild sanctuary is a uniquely remote landscape on the Piedmont of Southside Virginia. Secluded on three sides by an elongated river bend, with over 12.1 km of river frontage, this historic plantation now includes over 138 ha of wetlands, 49 hectares of fields managed for wildlife (e.g., food plantings, prescribed burns, etc.), two ponds, duck impoundments, and a recently-constructed lake of approximately 2.4 ha in size, as well as an extensive network of gravel and dirt roads. The property sits at the terminus of Cove Road (VA 617).

The Cove includes a high and level plateau above the wide river, with a sharp drop of some 15 m down to the Staunton. Prehistoric and historic occupation occurred on this plateau, including aboriginal traffic and hunting, and multi-generational plantation farming. The original land grant to John Randolph dates from the late eighteenth century.

The Cove is now being managed by the Ward Burton Wildlife Foundation to preserve its remote and natural condition as a preserve for wildlife, and as a model for sound conservation stewardship. At the time of printing, the entire acreage will be under conservation easement to ensure its future preservation. An additional lake and another nearly 40 hectares of wetlands are planned for the preserve.

This property is a private sanctuary not open to the general public. Access to this location, to conduct a thorough herpetological survey, represented a rare opportunity for the Virginia Herpetological Society to search an area with a long-history of nominal occupation and only limited agricultural use. No organized effort to survey herpetofauna had previously been conducted in this area.

The potential for a high diversity of biota is reflected in the variety of landscapes present. A tremendous myriad of habitats at *The Cove* includes: extensive river floodplain, mature hardwood bottomland forests, mixed upland forests, steep ravines; old structures including barns, cabins, farm houses, and sheds; ponds, perennial streams, meadowlands with various compositions and successional stages, stands of tall hardwood timber, Red Cedar glades, natural vernal pools, and artificial impoundments. Wetlands provided a significant target for survey efforts, but balanced effort was devoted to examining upland forests as well. Forest composition throughout the upland areas suggested that wetland conditions were common (e.g., *Quercus phellos* (Willow Oak), *Liquidambar styraciflua* (Sweetgum), and *Betula nigra* (River Birch) were abundant). The survey area was divided into four quadrants in order to affect an efficient effort with only two days in which to search the property.

Materials and Methods

The Virginia Herpetological Society's annual Spring Survey was conducted on 21-23 May 2004, with the targeted

The Cove Survey

survey area being *The Cove* and the base for operations at Staunton River State Park near Clover, Virginia. Owner and Nascar celebrity, Ward Burton, granted permission for access to the property. Jerry Craig, Executive Director of the Ward Burton Wildlife Foundation and lifelong member of the VHS, coordinated the arrangements.

MH and JC conducted a reconnaissance tour on 23 April 2004, to develop a strategy for the targeted area of the survey. The entrance road (VA 617) was used to divide the property into four quadrants, to facilitate maximum survey effort using four teams. Detailed descriptions of potential habitats and directions for navigating the remote expanse of *The Cove* were developed for each of the teams. Teams were also provided with multiple maps to aid in their search efforts. An orientation meeting was conducted on the evening of 21 May at nearby Staunton River State Park, to prepare participants for the two-day survey. Restricted access at *The Cove* required that all participants caravan in and out at coordinated times on both of the survey days (22-23 May). The centrally located area of the Block House, a cluster of buildings in the southern quarter of *The Cove*, served as the 'command post' for the weekend efforts. Teams were instructed to rendezvous back at the Block House at 13:00 and 18:00 on the first day, to report findings and then for the caravan to exit.

Three hoop turtle traps were set on the evening of 22 May, in a pond and the river bottom swamp on the Northeastern Quadrant, and these were retrieved the next morning.

Extensive dip netting and hand search under cover objects (e.g., logs, rocks, and debris) were conducted by all teams. Old dwellings and structures were searched, and all loose materials examined around these sites were returned to their original condition; this was done to honor the request of the owner to maintain the nostalgic and sentimental value of these buildings.

Considerable footwork was involved in examining the great diversity of habitats on the property. Potential sites listed in each team's packet of maps and information were checked off as examined, for efficiency and to plan for the second day of the Survey. Team leaders at each separate site or subsite within their assigned quadrant completed data forms. Data specific to each capture or observation were recorded (e.g., standard measurements for specimens, microhabitat use, animal behavior, etc.).

Survey Sites

Site 1: Northeast Quadrant

The "Sattler Team" investigated and logged coordinates for 9 different sites on this quadrant, ranging over half of the northern end of the "Horseshoe Bend". This peninsula terrace included two ponds, the 18th century Plantation House, wooded stream ravines, as well as extensive swamp forest and large emergent wetlands in the floodplain of the River.

Site 2: Southern (Southeastern) Quadrant

The "Mackler Team" investigated and logged coordinates for 10 sites, including the Block House (a complex of outbuildings, debris piles, etc.), an area of wooded river bottom East of the Block House, fields, small streams, old structures, wooded ravines South of the Block House, and areas near (and South of) the entrance gate. GPS data recorded on this quadrant showed an elevational range of 94-169 m above sea level. This southern end of the property also included a pine plantation, woods roads, tobacco barns, and a powerline right-of-way.

The Cove Survey

Site 3: Western Quadrant

The ‘Steele Team’ investigated and logged coordinates for 15 sites on the western portion of *The Cove* property. This area included the Watts tract, bordered on the east by the main entrance road (VA 617) and by the River on the southwestern edge. Habitats here included a 2.4 ha linear lake with two feeder streams, an outflow creek, and a Sycamore-dominated bottom; a gravel road in the river floodplain, drainage ditches and small streams, isolated wetlands, meadows, a duck impoundment, flooded fields, river frontage with forested bottomlands, slough-like channels, dirt roads, and a grassy lane. The Devan tract on this quadrant included upland slopes, an old clear-cut, meadows, prescribed burn fields, part of the river terrace/plain, a large barn, and a knoll.

Site 4: Northwestern Quadrant

The ‘Hayslett/DeVan Team’ investigated and logged coordinates for 8 sites, including: a large (1 ha) upland swamp basin, willow and rush glades, a birch swamp, gum swamp; and a dilapidated log barn with a round, cement cistern on the southwestern side of the Plantation House. Stops along the extensive line of steep, west-facing ravines were explored, as were south- and north-facing slopes in that vicinity. A two-story cabin and more of the north-facing slopes west of the Plantation House were also searched.

Results

At the end of the two-day survey, 15 species of amphibians (4 salamanders, 11 anurans) and 13 species of reptiles (3 turtles, 3 lizards, and 7 snakes) were documented. Of these 28 species of herpetofauna, six species (*Notophthalmus viridescens*, *Hyla chrysoscelis*, *Lithobates* (formerly *Rana*) *palustris*, *Lithobates* (formerly *Rana*) *sphenocephala*, *Chrysemys picta*, and *Nerodia sipedon*) had not previously been documented from Halifax County (Mitchell, 1994; Mitchell and Reay, 1999). No voucher photos

or specimens were collected. An annotated checklist of the species found during the survey is provided below. Numbers in parentheses following the species name indicate the four quadrant locations described previously and also correspond to the columns in Table 1, which summarizes the species found on each quadrant.

Annotated Checklist

Amphibians

1. *Ambystoma opacum* (Marbled Salamander)–(1, 4)

Three adult females were found under a log along a road cut bank, and a fourth one was found nearby. A fifth, small adult, was uncovered from a log at the road edge opposite the Plantation House. Two more adult females were found under a log in a cedar glade near a vernal gum depression southeast of 'Indian Rock Field' and three adults were also found under debris in a cistern on the southwest side of the Plantation House.

2. *Desmognathus fuscus* (Northern Dusky Salamander)–(1, 4)

A juvenile was caught in the creek and west of the Plantation House, and larvae were found in wetlands below the northeast pond

3. *Notophthalmus viridescens viridescens* (Red-spotted Newt) – (1, 2, 4)

Three adults were caught on a north-facing slope south of the Plantation House; adults were also dipnetted from submerged vegetation at the northeast pond; five efts were found on the forest floor in a ravine west of the Plantation House; six adults and four larvae were also caught in the northeast pond; an eft (SVL=25mm; TL=53mm) was photographed on leaf litter at

The Cove Survey

the southeastern end of the property; four efts were noted around swamp holes and on the slope south of an upland birch swamp in the northwestern corner; an eft was found in the cistern southwest of the Plantation House, and three efts were on the surface in deep ravines west of the Plantation House.

4. *Plethodon cylindraceus* (White-spotted Slimy Salamander)–(1)

A single adult was found under a log in a wooded ravine around the northeast pond.

5. *Acris crepitans crepitans* (Eastern Cricket Frog)–(1, 2, 4)

Three females (TL of one = 29mm) were caught in the water and ca. 30 adults from the margin of the northeast pond, as was one adult from the swamp east of this pond; one adult was caught in the creek and west of the Plantation House; an adult female (TL=25mm) was caught on leaf litter and another (TL=28mm) in a path puddle on the southern end of the property; a few were calling from the large upland swamp on the northern extreme of the property, and another male was calling from the area of a vernal gum depression, located southeast of the 'Indian Rock Field'. One was also caught at an upland birch swamp in the northwest corner.

6. *Anaxyrus* (formerly *Bufo*) *americanus americanus* (Eastern American Toad)–(4)

A single adult was caught near an old two-story cabin south of the Plantation House.

7. *Anaxyrus* (formerly *Bufo*) *fowleri* (Fowler's Toad)–(2, 3, 4)

One adult male was found under debris south of the Plantation House; five subadults were caught on the Block House lawn and three subadults (range of TL=43-52mm) were found

along a south-central footpath and near the right-of-way just south of the Block House. An immature toad (TL=1.3cm) was also found out on the west edge.

8. *Hyla chrysocelis* (Cope's Gray Treefrog) - (3)

A single male (TL= 4cm, Mass= 7g) was caught while calling from a branch 1m high on the western side of the property.

9. *Hyla versicolor* (Gray Treefrog) - (1, 2, 4)

Males were calling from the forest around the northeast pond and from the swamp east of this pond; four males were calling from trees in the wooded river bottom east of the Block House; many were calling from birch trees within the large upland swamp on the northern extreme of the property, and one male was calling from the area of a vernal gum depression southeast of the "Indian Rock Field".

10. *Pseudacris crucifer* (Spring Peeper) - (1, 2, 4)

Three metamorphs were observed on emergent vegetation and one adult near the road cut bank around the Plantation House; numerous tadpoles (likely Peepers), were observed in various wetland habitats in the northeast area; one male (TL=28mm) and another adult (TL=23mm) were seen on leaf litter in the wooded river bottom east of the Block House; an emaciated male was found in an upland birch swamp in the northwest area, and a female was found in the cistern southwest of the Plantation House.

11. *Pseudacris feriarum* (Upland Chorus Frog) - (2)

One frog (TL=28mm) was found in leaf litter in the wooded river bottom east of the Block House.

The Cove Survey

12. *Lithobates catesbeianus* (formerly *Rana catesbeiana*) (American Bullfrog)–(4)

A single calling male was heard in the large upland swamp on the northern extreme of the property.

13. *Lithobates* (formerly *Rana*) *clamitans* (Northern Green Frog)–(1, 4)

One frog (TL=64 mm) was caught on a log in a shaded puddle, males were calling from the margins of the northeast pond, and one adult from the swamp east of this pond; a few were calling from and tadpoles were caught in the large upland swamp on the northern extreme of the property.

14. *Lithobates* (formerly *Rana*) *palustris* (Pickerel Frog)–(2, 3)

A female (TL=6cm, Mass= 6g) was caught hopping through cattails on the west side, and several, including a female (TL=47mm), in a sandy-bottomed stream to the South.

15. *Lithobates sphenoccephalus* (formerly *Rana sphenoccephala*) (Southern Leopard Frog)–(1, 3)

A juvenile DOR specimen (TL=2.7cm) was found on a gravel road on the western side of the property, and an adult was seen coming out of the swamp below the northeast pond.

Reptiles

16. *Chrysemys picta picta* (Painted Turtle)–(1, 4)

Two adult females were attempting to nest along northern roads, one of them (carapace L=16cm, Mass=371g) on the bank; two females were caught on the dirt road near the north fork in the northeast area, and a juvenile (carapace L= ca. 2.5 cm) was migrating across the path intersection at 'Indian Rock Field' on the northern end of the property.

17. *Pseudemys concinna* (River Cooter) – (1, 4)

A female (plastron L= 32 cm) was noted along the northern road, 0.56 km south of the Plantation House; a second (nesting) female was later seen in this vicinity.

18. *Terrapene carolina carolina* (Eastern Box Turtle) – (1, 2, 4)

Two adult males were found east of the northern cabin; a shell was found in the woods north of the northeast pond; a female (carapace L= 119mm) was caught on a wooded trail south of the Block House; an adult (carapace L= 135mm) and a juvenile (carapace L= 75mm) were found in a field near the forest edge south of entrance, and an adult male was found on a wooded slope in a deep ravine west of the Plantation House.

19. *Plestiodon* (formerly *Eumeces*) *fasciatus* (Common Five-lined skink) – (1, 2, 3)

One specimen (SVL= 6.5 cm; Mass=10 g) was found under a log. Four juveniles, one male, and one female were found in a woodpile on the north side of the Plantation House; a male was observed on a log in the swamp below the northeastern pond, and another adult was found under boards at the Block House; one adult female was caught on the Block House chimney and another (SVL= 45mm; TL= 97mm) found under a log in the wooded river bottom east of the Block House.

20. *Plestiodon* (formerly *Eumeces*) *laticeps* (Broad-headed Skink) – (2)

The final capture of the survey (17:25 on 23 May) was a small male (SVL= 72mm; TL= 102mm) on the south outside wall of the Block House.

The Cove Survey

21. *Sceloporous undulatus* (Eastern Fence Lizard) – (1, 2, 4)

An adult male was found in a field slash pile south of the Plantation House; three males (one with TL= 156mm) and one female were observed on logs and pine trees at the Block House; a juvenile female (SVL= 39mm; TL= 84mm) was seen on a sunny log in the southern forest, and another adult was observed on a fallen pine in an old roadbed near the northwestern corner.

22. *Carphophis amoenus amoenus* (Eastern Wormsnake) – (2, 4)

One adult was found under a log and three adult females (TL = 26 cm) under tin; one was found (SVL= 235mm; TL= 273mm) under a log and another (SVL= 229mm; TL= 268mm) in a log in the wooded river bottom east of the Block House; one (SVL=222mm; tail=44mm) was found under a log at Site S-4; one specimen (SVL=193mm; TL=225mm) was found under old bucket on east side of the Block House; an adult (TL= ca. 25cm) was found under tin at the old barn southwest of the Plantation House, as were two adults (TL= ca. 30cm) found under a log in the deep ravines southwest of the Plantation House.

23. *Coluber constrictor constrictor* (Northern Black Racer) – (2, 3)

A male (TL=138cm; Mass =380g) was captured while basking at noon; a DOR specimen was found in the vicinity on 23 May, at the intersection of VA 616 and 617.

24. *Diadophis punctatus* (Ring-necked Snake) - (1, 2)

A juvenile was discovered in a ravine channel; another snake was found inside a log behind Plantation House; one additional juvenile was found under a log near Pond 2; an adult exhibiting the southern ring-necked pattern was found under boards at Block House; a snake exhibiting an intergrade pattern (SVL=300mm; TL = 390mm) was found in a rotten

stump; another intergrade patterned specimen (SVL=181mm; TL=231mm) was uncovered under bark at site S-7; a northern pattern specimen (SVL=277mm; TL=360mm) was discovered in a log in the wooded river bottom east of Block House.

25. *Pantherophis* (formerly *Elaphe*) *alleghaniensis* (Eastern Ratsnake) – (1, 2, 4)

One adult was collected on a road cut bank on site 4. A 122 cm shed skin was found on the berm at the large upland swamp on the northern extreme of the property. On 23 April an adult was photographed crawling up the interior of a log cabin.

26. *Nerodia sipedon sipedon* (Northern Watersnake)- (3)

Several northern watersnakes were observed at the lake.

27. *Opheodrys aestivus* (Rough Green Snake)

A DOR specimen of poor quality (TL=64cm) was recovered just south of the property.

28. *Tantilla coronata* (Southeastern Crowned Snake) - (3)

One specimen (SVL=14 cm; TL=17 cm; Mass = 54.5 g) was discovered under a log on the Watts tract and photographed before release (VHS Digital Archive #111).

Discussion

The annual VHS Spring survey has multiple goals. One is to bring the membership together to socialize while herping. The other is to add knowledge regarding Virginia's herpetofauna. Halifax County has been underrepresented in surveys documenting its amphibian and reptile diversity. This survey was successful in extending our knowledge of the distribution of many species in Virginia. Six common species had not

The Cove Survey

been documented for the County before this survey, illustrating the need for standard herpetological survey efforts in Virginia “backwaters” such as the southern Piedmont. These areas, although long occupied by humans, have often been overlooked for their survey potential and contain many data gaps that could easily be filled with more herpetological surveys. *The Cove* property is massive in scale, and this survey only gives a small glimpse of what the property may contain. To adequately document the full range of species many more surveys over different seasons would have to be conducted.

The most notable herp that was not discovered during the survey was *Ambystoma maculatum*. The discovery of 10 *Ambystoma opacum* near the surface by two teams, and the presence of many ephemeral upland wetlands, suggests a sizeable breeding population of this vernal pool obligate on the northern end of the property. These observations lead the authors to conclude that the habitat is right for the spotted salamander and possibly the rare Mole Salamander. Hayslett (2003) hypothesized that *Ambystoma talpoideum* (Mole Salamander) is likely located along the south banks of the Staunton River in Halifax County. Bader’s original (first) site for this species was in Charlotte County just kilometers upstream from *The Cove* property (Bader and Mitchell, 1982). *The Cove* has a high potential for this species, with its mature hardwood bottomlands and extensive isolated wetlands. MH’s habitat assessment of *The Cove* suggests the Mole Salamander will likely be found there with survey efforts during the appropriate seasons.

JG believes that one of the next herps to be added to the state list might be *Eurycea quadridigitata* (Dwarf Salamander). This salamander is found inhabiting the northern counties of North Carolina which border Halifax County and the south central piedmont of Virginia (Conant and Collins, 1998). The flood plains of the Staunton River may have served as dispersal corridors in the past for

this species. Perhaps some relict populations still exist in Virginia for this southern oriented species. Eleven of thirteen possible anuran species were collected during the survey time period. Two species not collected, but which are possible, are *Gastrophryne carolinensis* and *Scaphiopus holbrookii*. Both of these species are known to be explosive breeders, usually breeding after heavy rainstorms (Martof et al., 1980).

With regards to reptiles, an additional turtle species (*Kinosternon subrubrum subrubrum*) was collected on county route 614 on 23 April 2004. This leaves only *Chelydra serpentina* and *Sternotherus odoratus* as not being documented for this property. Only three of five possible lizard species were documented during the survey weekend. *Scincella lateralis* and *Aspidoscelis sexlineatus* were not collected but are expected to be found with more investigation. *Plestiodon inexpectatus* finds its western most range in adjoining Mecklenburg County and could possibly be found in Halifax County, thus expanding its western range. Of 20 possible snakes species only seven were caught and observed. JC has found *Agkistrodon contrortix* and a melanistic phase *Heterodon platirhinos* on *The Cove* property.

Perhaps the most intriguing element of this survey is the suggestion that a relictual population of the Timber Rattlesnake (*Crotalus horridus*) still persists in this part of the southern Virginia Piedmont. The Ward Burton Wildlife Foundation's land manager at *The Cove*, James Bunn, cited reports of snakes from a local area known as "Rattlesnake Creek" and of a specific report of a rattlesnake killed at the nearby public dumpster, just before the dates of this survey. Most convincing, however, is a ragged but revealing photograph from a half-century past. A *Farmville Herald* newspaper clipping of a June 22, 1956 reprint, in MH's possession portrays a farmer holding a dead rattlesnake. The photograph caption reads, "Thornton Francis, of Halifax County between Brookneal and Clarkton, holds a snake described as a swamp rattler, which he killed on his farm near

The Cove Survey

Staunton River Monday. Rattlesnakes are generally believed to be very rare in this area.” The pattern and tapering tail typical of a rattler are distinguishable in the photo, and the snake appears to be approximately 104 cm in total length.

Table 1. Summary of the herpetofauna observed during the 2004 VHS Spring Survey. Numbers in the top row refer to the site locations described in the text. New County Records (Mitchell and Reay, 1999) are indicated in the last column.

Species	1(NE)	2(S)	3(W)	4(NW)	County Record
Amphibians					
<i>Ambystoma opacum</i>	x			x	
<i>Desmognathus fuscus</i>	x			x	
<i>Notophthalmus viridescens</i>	x	x		x	X
<i>Plethodon cylindraceus</i>	x				
<i>Acris crepitans</i>	x	x		x	
<i>Anaxyrus americanus</i>				x	
<i>Anaxyrus fowleri</i>		x	x	x	
<i>Hyla chrysoscelis</i>			x		X
<i>Hyla versicolor</i>	x	x		x	
<i>Pseudacris crucifer</i>	x	x		x	
<i>Pseudacris feriarum</i>		x			
<i>Lithobates catesbeianus</i>				x	
<i>Lithobates clamitans</i>	x			x	
<i>Lithobates palustris</i>		x	x		X
<i>Lithobates sphenoccephala</i>	x		x		X
Reptiles					
<i>Chrysemys picta</i>	x			x	X
<i>Pseudemys concinna</i>	x			x	
<i>Terrapene carolina</i>	x	x		x	
<i>Plestiodon fasciatus</i>	x	x	x		
<i>Plestiodon laticeps</i>		x			

<i>Sceloporous undulatus</i>	x	x		x	
<i>Carphophis amoenus</i>		x		x	
<i>Coluber constrictor</i>		x	x		
<i>Diadophis punctatus</i>	x	x			
<i>Pantherophis</i>					
<i>alleghaniensis</i>	x	x		x	
<i>Nerodia sipedon</i>			x		X
<i>Opheodrys aestivus</i>					
<i>Tantilla coronata</i>			x		

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The Cove Survey

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VHS 2008 Annual Spring Meeting & Survey
Colonial National Historic Park - May 16th - 18th

The VHS will explore the 1,000 acres of the Colonial National Historic Park in James City County and York County, for the Annual Survey. Preliminary planning has begun and details will be posted on the VHS website and the Yahoo group. Areas that are being considered for the survey include a former plantation site with no documented herp surveys ever having been conducted. Local hotels will be plentiful and camping is available at Newport News Park and a KOA campground. The state threatened Mabey's salamander has been documented in the area, so there are opportunities for rare species. Abundant cottonmouths can also be seen at the nearby Newport News Park for anyone looking for a side trip.

General: This survey will help identify possible new county records as well as support the Colonial National Historic Park's wildlife/herpetofauna database which is used towards conservation. Please bring your GPS as the Park would like specific coordinates for specimens found.

Location: Colonial National Historic Park, Yorktown, VA.

Date: May 16-18, 2008

Registration: VHS members should RSVP by **May 2, 2008** to Tim Christensen (mtnc066@msn.com) or Susan Watson (Susan.Watson@dgif.virginia.gov).

The Weak El Niño of 2007: Disturbances in Life History Patterns and Weather Related Fatalities due to a Warm January.

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January 2007 was ushered in with unseasonably warm temperatures due to a weak El Niño event. Two spikes of high temperatures occurred in the Pittsylvania County / Danville region; one lasting from January 1-9 with temperatures above 20°C and lows above 10°C, and a second warming trend lasting from January 12-16 with the highest day reaching 21°C and night temperatures above 10°C. January 25-31 reined in the end of the warm weather with below average temperatures. Herp related activity during an El Niño event was reported by Bulmer in 1998. He and Cherok reported its effects on the Eastern Ratsnake (*Pantherophis alleghaniensis*) and the Spring Peeper (*Pseudacris crucifer*). The twenty first century has seen an upsurge of El Niño activity. It is interesting to speculate what effects this has on reptile and amphibian natural history. This report will outline a few disturbances in normal life history patterns of six species of amphibians and

one species of reptile, and show weather related fatalities due to a warm early January.

During the warm spell in January 2007, JG and MC made a concerted effort to document early seasonal records. On 6 January 2007, JG surveyed White Oak Mountain Wildlife Management area in Pittsylvania County. The temperature was 22°C with full sunshine. Two male anurans were observed calling. One male *Pseudacris feriarum* (Upland Chorus Frog) was observed calling from beside a small ephemeral stream. One male *Pseudacris crucifer* (Spring Peeper) was calling from the woods beside this same stream. A juvenile American Bullfrog (*Lithobates catesbeianus* [formerly *Rana catesbeiana*]) was found basking on the margin of a small stream. Two Red-spotted Newts (*Notophthalmus viridescens viridescens*) were also documented in this same general locale. One newt was captured in a small stream, the other was found in a shallow pond. The last observation for this day was four Eastern Painted Turtles (*Chrysemys picta picta*) which were observed swimming in a shallow pond. JC has surveyed White Oak Mountain for nine years and has observed earlier observation dates for *Chrysemys picta picta* and *Notophthalmus viridescens viridescens* but not for the other species mentioned above (unpublished data).

On 15 January MC, while searching a road rut vernal pool in the City of Danville, discovered a pair of *Pseudacris feriarum* in amplexus. Several egg masses were also observed from this same pool. By early February all the egg masses were destroyed by freezing temperatures and subsequent ice formation in the breeding pool. No literature records, including Pollio's (2007) recent review of the Upland Chorus Frog, were found which document earlier observation dates of amplexus and egg laying for this species.

El Niño Effects

The last observations for this month occurred on 28 January. JG was surveying one of his known ambystomid salamander ponds on White Oak Mountain Wildlife Management area and discovered five Spotted Salamander (*Ambystoma maculatum*) egg masses. Although these were discovered on this date, they probably were deposited earlier. Most of these masses did not survive the very cool temperatures and subsequent freezing in February. One dead Northern Green Frog (*Lithobates* [formerly *Rana*] *clamitans melanota*) was found ventral side up in a small vernal pool. Upon inspection no sign of external injury or trauma was discovered. Seven planaria (flatworms in the phylum Platyhelminthes) were found on the left eye, presumably scavenging the frog's remains. This animal was picked up and preserved in ethanol and sent to JW. She conducted a necropsy on the frog and found all of the striated muscle tissue containing multiple spores attributable to an Ichthyophonus-like infection (Figure 1). No evidence of other infections or pathology was observed in slides of the liver, skin, heart, or intestinal tract. Ichthyophonus-like organisms are members of the class Mesomycetozoa, at the interface of fungi and protozoa (Mendoza et al, 2002). The Ichthyophonus-like infection documented in this paper is also not a new observation. J.W. (2008) has documented this parasite for Spotted Salamanders in Charles City County, Virginia. Mikaelian and his colleagues (2000) have documented this organism in the Northern Green Frog and in other species of amphibians in Québec, Canada. Little is known about this organism and its effects on the life history of the species it infects. Perhaps low level infection rates combined with unusual patterns in weather leaves an animal unusually stressed and therefore leads to its demise. Early emergence, vocalizing, and egg laying in anurans are not new or rare, but occurrences in early

January are extremely unusual. The authors urge readers to document amphibian and reptile deaths and to record observations of early emergence and breeding. Please contact JG or JW with any inquiries into herp diseases or to report unusual observations or dead animals.

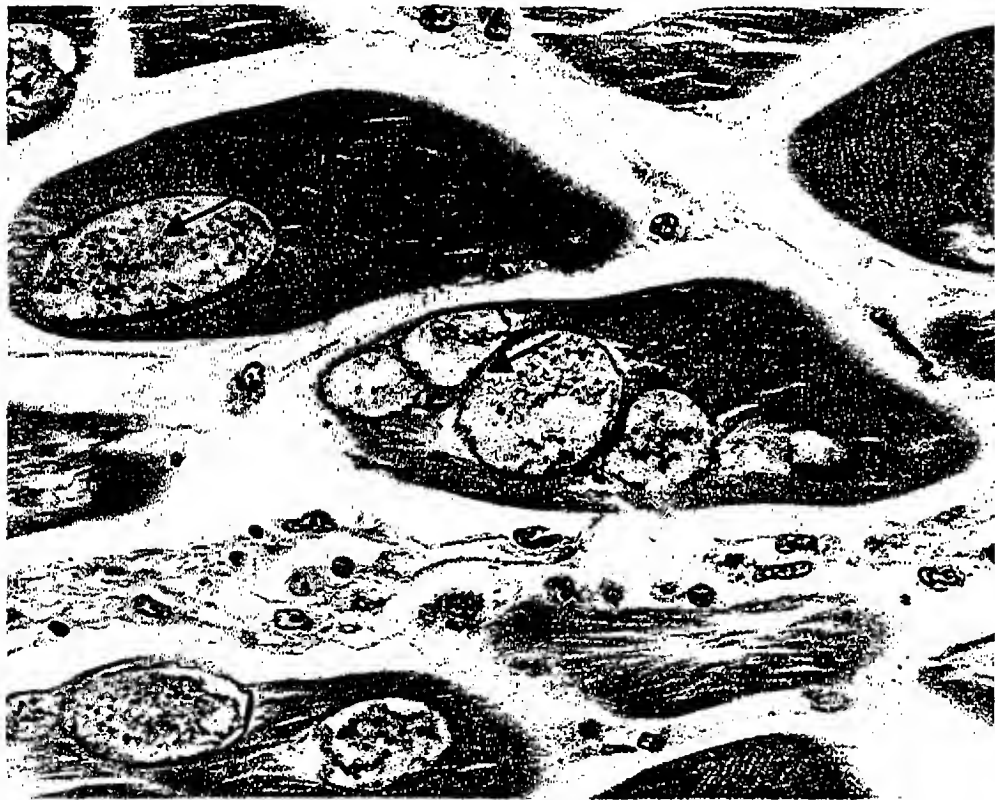


Figure 1. Striated muscle containing multiple spores of Ichthyophonus-like organisms.

Acknowledgements

We thank Dr. Davis Massey, Dept. of Pathology, for photographing the histology slide of the spore-infested muscles, and the staff of the Histopathology Laboratory, VCU School of Medicine, for preparation of the histologic specimens. We would also like to thank two anonymous reviewers for their comments on an earlier manuscript.

El Niño Effects

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FIELD NOTES

Hemidactylus turcicus (Mediterranean Gecko) VA: Loudoun County, Leesburg, 741 Miller Drive, SE. October 2007.
Helene Lisy.

In October 2007 (exact date unrecorded), a dead, desiccated Mediterranean Gecko (*Hemidactylus turcicus*) was found in an adhesive insect trap in the Smithsonian Institution Naturalist Center in Leesburg, Virginia. The trap had been put in place on September 19, 2007, as part of the museum's regular pest control practices. The trap was located within a few meters of an external door in the Anthropology section of the museum. The trap also contained a spider, the pursuit of which may have led the lizard into the trap. The gecko was preserved in alcohol; it and the trap (which retained most of the lizard's ventral skin) were entered in to the Naturalist Center's collection as NC 63302. A digital image has been deposited in the VHS archives (#110).

Sattler, Lane, and Harris (2007. *Catesbeiana* 27: 36-39) reviewed the distribution of *Hemidactylus turcicus* in Virginia, noting that small, localized populations of this exotic species have become established in association with buildings in the Commonwealth.

No other observations of geckos have been made at the Naturalist Center in the twelve years that it has occupied its current location. However, the Center's hours of operation are 1030 h to 1600 h, providing few opportunities to observe a nocturnal animal. It remains unknown whether this specimen was a stray individual, or part of a larger population that resides in or on the building housing the Naturalist Center.

William D. Robertson
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Field Notes

Lithobates catesbeianus (formerly *Rana catesbeiana*) (American Bullfrog) Ranavirus infection. VA: City of Danville, Dan Daniel Memorial Park (36° 34' 36" N, 79° 22' 12" W). 2 March 2008. Jason D. Gibson.

On 2 March 2008, JG performed a routine circuit of wetlands searching for herps and discovered a submerged dead juvenile American Bullfrog (37 mm SVL). The dead frog was retrieved, photographed, measured, and placed in a plastic bag. This discovery was made in a small retention pond, which collects run-off water from a ball field parking lot in Dan Daniel Memorial Park. The entire pond was searched, revealing only 19 spotted salamander egg masses. No tadpoles or other frogs were observed in this pond. A survey of a pond across the road yielded many tadpoles and 23 spotted salamander egg masses. The outflow stream from this pond was also searched and one dead juvenile pickerel frog (30 mm SVL) was discovered. This frog was also photographed, measured, and placed in a plastic bag. The frogs were later preserved in ethanol and shipped to JW. JW did a complete necropsy on the frogs and prepared tissue specimens of the major organs for microscopic examination. A ranavirus PCR test was conducted on a sample of liver tissue from both frogs. The slides of the major organs of the pickerel frog did not reveal evidence of chytridiomycosis, other fungal infections, abnormalities of the organs or other evidence that could indicate the cause of death, although a 3 cm roundworm was found between the external side of the liver and the muscle below the skin. No evidence of ranavirus was found in the PCR analysis of DNA from its liver. The histological slides of the major organs of the American Bullfrog did not indicate any particular disease, but the liver of the bullfrog did test positive for a ranaviral infection. Ranaviruses are DNA viruses of the family Iridoviridae which

can infect amphibians, reptiles, and fish (Chinchar, V.G. 2002. Ranaviruses (family Iridoviridae): Emerging cold-blooded killers. Arch Virol. 147:447-470). Ranaviruses have caused significant mortality among amphibian species around the world, including the United States and Canada (Green, D.E., K.A. Converse, A.K. Schrader, 2002. Epizootiology of sixty-four amphibian morbidity and mortality events in the USA. Ann NY Acad Sci 969: 323-339). Ranaviral infection is particularly lethal to anuran tadpoles and recent anuran metamorphs. To our knowledge, the presence of ranavirus-infected anurans in this part of Virginia has not been reported previously. It is interesting that no tadpoles or other frogs were observed at the time the dead bullfrog was found, although there is no way to attribute this to the presence of ranavirus in the population at this time.

We recommend continued monitoring of dead or moribund anurans in this area.

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President's Corner:

What can I say for VHS this spring, but wow has it been a busy time! So many things have happened already this year, and there are so many other things to work on for upcoming VHS events in 2008.

Back in early February, I was extremely honored to represent VHS as the recipient organization for the Virginia Chapter of The Wildlife Society's 2008 A. Willis Robertson Award! This annual award is given to a Virginia citizen or organization that has exercised outstanding conservation practices or has made significant contributions to conservation activities in the Commonwealth of Virginia. Congratulations to all of VHS! This accomplishment would not have been possible without the outstanding group of people that we have in VHS's membership!

Next, I minimally assisted with the Reptile Weekend event at the Virginia Living Museum, "Reptiles Bizarre and Beautiful". This turned out to be a successful event with very high attendance. The Museum had over 4000 visitors during the long weekend (President's Day Weekend). I believe we gained some new members from this event. Thank you so much to everyone who volunteered to work this event!

One accomplishment achieved for VHS is the start of using PayPal for interested parties to use in paying for membership in the society. Thank you to Pattie Crane for getting PayPal set up for VHS! During the event at the Virginia Living Museum, an informal survey of some past members who visited the VHS display found that most would be more likely to rejoin with the PayPal option. Hopefully, this fast, easy, and more up-to-date option of paying for membership will help give VHS an increase in the number of its members.

I would also like to take this opportunity to congratulate the winners of our 2008 VHS Grants in Herpetology. Karen Franci, along with her students, at Radford University will be conducting surveys this summer for their project, "Salamander use of karst sinkholes at Selu Conservancy, Montgomery County, Virginia". As well, Tami Ransom will be working this spring and summer on her project, "Are the behavioral responses of red-backed salamanders to an ecosystem engineer influenced by their evolutionary history?". Finally, Eric Liebgold will be working this spring and summer on his project, "The effects of social environment on the growth and behaviors of juveniles of a terrestrial salamander, *Plethodon cinereus*. Congratulations to all, and best of luck with your projects!

With a large amount of work from our Education Committee Chair, Mike Clifford, and with some proofreading help from Past-President, Jason Gibson, the three of us were able to help develop questions and materials for the Herpetology categories of the Virginia Science Olympiad, which took place on April 26, in Burke, Virginia. The Science Olympiad is a national competition for middle and high school students and the goals include improving the quality of science education, increasing student interest in science, and providing recognition for outstanding achievement in science education

Most recently, I attended a meeting regarding an upcoming program to focus on statewide monitoring of eastern box turtles, which will hopefully be facilitated by citizen scientists. This program is just in its developing stages with groups such as Master Naturalists, the Virginia Department of Game and Inland Fisheries, and Virginia Commonwealth University. There will hopefully be more developed information available on this program by this fall.

The President's Corner

Meanwhile, there are many things I need to continue to work on for the many upcoming 2008 VHS events. I need to work on some tasks for the VHS Annual Survey and Meeting, which takes place on May 16-18 at Colonial National Historic Park. Before this event, VHS is co-sponsoring the Amphibian/Reptile BioBlitz at the Dan Daniel Memorial Park, in Danville, with the Dan River Chapter of Virginia Master Naturalists and with Danville Parks, Recreation & Tourism. This event will take place on May 10th. Next, VHS will be participating in the Resource Ramble II on June 13 - 15th at the Blue Ridge Scout Reservation in Pulaski County. This is the second year VHS will participate in this event. Then, the VHS will host the Third Annual HerpBlitz on June 27th - June 29th at Grayson Highlands State Park. VHS also plans to attend the Second Annual Reptile Day Festival at the Virginia Museum of Natural History in Martinsville, on July 26th. Finally, the big event for this year will be the Fall Symposium and 50th Anniversary Celebration for VHS, which is planned for October 4-5 at VCU's facilities in the City of Richmond and in Charles City County. I have plenty more to work on for this event. I encourage all members, potential members, and anyone else who is interested to attend any and all events that they can. All the events should be filled with activities that will help educate participants and help support research and conservation of Virginia's herpetofaunal species. Please go to the VHS website for further details on our events: www.vaherpsociety.com.

Susan Watson
VHS President

Virginia Herpetological Society
Minutes of Meeting
October 20, 2007
VCU, Richmond, Virginia

Previously in the day, Dr. Joseph Mitchell was awarded the third Lifetime Achievement Award, for his tireless work to promote the study of herpetology and the conservation of amphibians and reptiles in Virginia. John White was presented with the VHS Member of the Year Award, for his ongoing work to maintain and improve the VHS Web Site. The current officers, Jason Gibson as President, Susan Watson as Vice President, and Paul Sattler as Secretary/Treasurer, were thanked for their service to the Society during the past term of office. Kristine Grayson (first place), Karen Duncan (second place), Leeanna Pletcher and Sarah Crane (tied for third place) presented posters in the student competition. Charlotte Steelman, Leeanna Pletcher, Anna Fredrickson, Sarah Budischak, Shannon Pittman and Brianna Lam gave oral presentations in the student competition. Sarah Budischak was awarded the best presentation.

Jason Gibson Called the meeting to order at 4:40 p.m. Everyone agreed that the Fall 2007 Symposium was a tremendous success. The student presentation sessions were well attended and attracted a large number of students, as were the keynote addresses. Up to 70 people were present for some of the sessions. It was suggested that planning for next year take into account an even larger number of student presentations. Sarah Orlofske volunteered to provide a copy of judging forms used by another institution for our use. There was some discussion as to whether a one day format for the Fall Meeting would be sufficient in the future. If Wildlife Mapping and/or a Teacher's Workshops would be added it might be necessary to go to a two day format.

Minutes

The Tax Exempt Status again came up as a necessary first step in regards to fundraising for special projects.

The Conservation Committee provided an extensive written report. A list of guiding principles has been presented to the Executive Committee for review. Current work is focusing on the development of a standard presentation in PowerPoint format, to emphasize the importance of conserving herpetofaunal resources. It was emphasized that copyright laws needed to be followed rigorously in developing any publicly available presentations. There was some discussion on where Committee reports should be published. It was suggested that full reports might be posted on the VHS Web Site and summaries in either the Newsletter or Catesbeiana.

The site of the Spring Survey was discussed. The Blue Ridge Boy Scout Resource Ramble has invited us back in June of 2008 for another survey of a different portion of their property. Jason Gibson would like to volunteer to head up a HerpBlitz to Southwestern Virginia. Art Evans would like the Beetle group to meet with the Herp group to do a survey of Pocahontas State Park next year. The next President will have several sites to choose from in setting the Survey site.

The location for the Fall 2008 Meeting was discussed. Many members commented how convenient Richmond was as a central locality, and how nice the facilities were. The membership suggested that next Fall's meeting again be hosted in Richmond. Other upcoming events mentioned were the Reptile Weekend at the Virginia Living Museum in February, and Reptile Day at the Virginia Museum of Natural History in July.

Steve Roble was thanked for many years of faithful service as Editor of Catesbeiana, and how he had set a new and higher standard for the journal. Jason Gibson appointed Paul Sattler to fill the role of Editor after Steve completes volume 27(2) later this year.

Elections were held to fill all three of the VHS elected offices. Susan Watson was nominated to fill the position of President, David Van Gelder the position of Vice President, and Pattie Crane and Emily Cole to jointly fill the position of Secretary/Treasurer. All were elected unanimously.

The year 2008 marks the 50th anniversary of the Virginia Herpetological Society. Special events or publications were discussed. A special symposium or talk on the History of the VHS was suggested for the Fall 2008 meeting. Steve Roble, with input from Joe Mitchell, Frank Tobey, Mike Clifford and Don Merkle was appointed to head up a special committee to try to arrange such a presentation.

The Meeting was adjourned at 5:30 pm.

Submitted by Paul Sattler

Former Secretary/Treasurer

**Virginia Herpetological Society
Treasurer's Report**

Balance on Hand December 2007 **\$5772.68**

Receipts:

Café Press Profit	\$229.57
January Dues	\$408.00
February Dues	\$481.00
March Dues	\$208.42
April Dues	\$ 47.64
Donation	\$ 25.00
Catesbeiana Back Issues	\$ 35.53

Total Receipts **\$1435.16**

Disbursements:

Catesbeiana 27(2)	\$597.98
New box of checks	\$21.00
VHS Grant	\$1,000.00

Total Disbursements **\$1618.98**

Balance on Hand April 2008 **\$5,588.86**

Patricia Crane
VHS Treasurer

MEMBERSHIP APPLICATION

I would like to _____ initiate _____ renew membership in the Virginia Herpetological Society for the year _____ 2008 _____ 2009 _____ 2010.

Name _____

Address _____

_____ Phone _____

email address: _____

Dues Category: _____ Regular (\$15.00)

_____ Family (\$20.00)

_____ Under 18 (\$8.00)

_____ Life (\$225.00)

Interests: _____ Amphibians _____ Reptiles

_____ Distribution _____ Research

_____ Captive Husbandry

_____ Specifically _____

Make checks payable to the Virginia Herpetological Society and send to:
Patricia Crane, 71 Jefferys Drive, Newport News, VA 23601

Visit the VHS web site at: **vaherpsociety.com**

Visit the VHS store at: **<http://www.cafepress.com/vaherpsociety>**

Field Notes

The field notes section of *Catesbeiana* provides a means for publishing natural history information on Virginia's amphibians and reptiles that does not lend itself to full-length articles. Observations on geographic distribution, ecology, reproduction, phenology, behavior, and other topics are welcomed. Field Notes will usually concern a single species. The format of the reports is: scientific name (followed by common name in parentheses), state abbreviation (VA), county and location, date(s) of observation, observer(s), data, and observations. The name(s) and address(es) of the author(s) should appear one line below the report. Consult the editor if your information does not readily fit this format. **All field notes must include a brief statement explaining the significance of the record** (e.g., new county record) **or observation** (e.g., unusual or rarely observed behavior, extremely early or late seasonal record, abnormal coloration, etc.). Submissions that fail to include this information are subject to rejection. Relevant literature should be cited in the body of the text (see Field Notes in this issue for proper format). All submissions will be reviewed by the editor (and one other person if deemed necessary) and revised as needed pending consultation with the author(s).

If the field note contains information on a **new county (or state) record**, **verification is required in the form of a voucher specimen** deposited in a permanent museum (e.g., Virginia Museum of Natural History) or a **photograph** (print, slide, or digital image) **or recording** (cassette tape or digital recording of anuran calls) deposited in the archives of the Virginia Herpetological Society. Photographs and recordings should be sent to the editor for verification and archiving purposes; the identity of voucher specimens must be confirmed by a museum curator or other qualified person. Include the specimen number if it has been catalogued. Prospective authors of distribution reports should consult Mitchell and Reay (1999. *Atlas of Amphibians and Reptiles in Virginia*), Mitchell (1994. *The Reptiles of Virginia*), and Tobey (1985. *Virginia's Amphibians and Reptiles: A Distributional Survey*) [**both atlases are available on-line on the VHS website**] as well as other recent literature to determine if they may have a new county record. New distribution records from large cities that formerly constituted counties (Chesapeake, Hampton, Newport News, Suffolk, and Virginia Beach) are acceptable, but records from smaller cities located within the boundaries of an adjoining county will only be published if the species has not been recorded from that county. Species identification for observational records (e.g., behavior) should be verified by a second person whenever possible.

PHOTOGRAPHS

High contrast photographs (prints, slides, or digital images) of amphibians and reptiles will be considered for publication if they are of good quality and are relevant to an accompanying article or field note. Digital images are preferred. Prints should be on glossy paper and no larger than 5 x 7 inches. Published photographs will be deposited in the Virginia Herpetological Society archives.